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10/736,253	12/15/2003	Thomas E. Creamer	BOC9-2003-0090 (461)	6426
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/736,253

Applicant(s)

CREAMER ET AL.

Examiner

Eunice Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-14 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-14 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed 7/24/07, Applicants have submitted an Amendment, filed 10/24/07, cancelling claims 3, 9 and 15, amending claims 1, 2, 5-8, 11-14 and 16-18, adding new claims 19-21, without adding new matter, and arguing to traverse claim rejections.

Terminal Disclaimer

2. The terminal disclaimer filed on 10/24/07 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/736,258 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 4-8, 10-14 and 16-21 have been considered but are moot in view of the new ground(s) of rejection, below. Applicant's arguments filed 10/24/07 have also been fully considered but they are not persuasive: Applicants submit that neither Petrushin nor Frantz, singly or in combination, teach the limitation that the voice stream is analyzed and text data is embedded within the single uncompressed full bandwidth voice stream (Remarks, pp. 1-12, particularly p. 11). The examiner respectfully disagrees. Petrushin teaches utilizing "telephone call center conversations" (col. 4, ll. 57-61), which reads on receiving a full bandwidth Public Switched Telephone Network (PSTN) audio stream. The basic circuit in the PSTN is a single 64-

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kilobits-per-second channel. Thus, Petrushin in combination with Frantz would teach or fairly suggest the newly amended limitation of “receiving a full bandwidth PSTN audio stream transmitted over the PSTN.” The amended pending claims stay rejected over Petrushin and Frantz, and their rejection is repeated, *mutatis mutandis* for claim amendments, below.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4-8, 10-14 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petrushin, US Patent No. 7,222,075, in view of Frantz, US Patent No. 6,904,264.

Regarding claims 1, 7 and 13, Petrushin teaches a method, system, and machine readable storage, for providing biometric information over a telephone call established over a Public Switched Telephone Network (PSTN) between at least one speaker and a subscriber comprising: receiving a full bandwidth PSTN audio stream transmitted over the PSTN, said audio stream comprising a plurality of voice signals of the speaker (col. 4, ll. 58-61, teaches “detecting the emotional state of a caller [speaker] in telephone call center conversations [voice signals]”); and determining biometric information from the voice signals of the speaker (col. 3, ll. 11-16, teaches “providing a speech signal [voice information]”; col. 3, ll. 33-38,

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teaches “calculating statistics of the speech...logic...for classifying the speech as belonging to [determining] at least one of a finite number of emotional states [biometric information]”).

Petrushin does not explicitly teach, but Frantz teaches: identifying inaudible portions in the PSTN audio stream using a psychoacoustic model; and modifying said PSTN audio stream by encoding the biometric information and replacing the identified inaudible portions of the PSTN audio stream with said encoded information (col. 1, ll. 33-44, teaches “Audio coding algorithms or schemes...based on acoustic measurements as a method for identifying those portions of the audio transmission that are inaudible to [the human] ear and need not be transmitted...delete [replace] the inaudible portion...the available bandwidth can be used as a data channel [i.e. for embedding information in place of the inaudible portions]”).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Petrushin with Frantz because Frantz teaches that this would “[permit] significant audio compression and conservation of bandwidth without degrading audio quality” (col. 1, ll. 38-44).

Petrushin teaches transmitting the modified PSTN audio stream to the subscriber over the PSTN (col. 3, ll. 37-38, teaches the “system also comprises logic for outputting an indication of the at least one emotional state”; col. 3, ll. 51-52, teaches “an output device coupled to the computer for notifying a user of the emotional state detected in the voice signal”; see also col. 4, ll. 43-61).

Regarding claims 2, 8 and 14, Petrushin teaches said determining step comprising: extracting at least one attribute from the voice signals (col. 3, ll. 13-15, teaches “extracting at least one acoustic feature [attribute] from the speech [voice] signal”);

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comparing the at least one attribute with voice metrics (col. 3, ll. 48-53, teaches “a database of speech signal features and statistics [voice metrics] accessible to the computer for comparison with features of the voice signal); and

generating the biometric information based upon said comparing step (col. 3, ll. 48-53, teaches, “a database of speech signal features and statistics accessible to the computer for comparison with features of the voice signal [comparing step] and an output device coupled to the computer for notifying a user of the emotional state [biometric information] detected in the voice signal”).

Regarding claims 4, 10 and 16, Petrushin teaches wherein the biometric information specifies at least one of an indication of voice level, stress level, voice inflection, and an emotional state (col. 3, ll. 20-22, teaches “outputting an indication of the at least one emotional state [biometric information] in human-recognizable format”).

Regarding claims 5, 11 and 17, Petrushin teaches wherein the subscriber receives the voice signals, and the associated biometric information, both of the speaker, substantially concurrently over the call (col. 13, ll. 1-6, teaches “emotion of the caller [biometric information] would be determined during [substantially concurrently] the caller’s conversation [voice signals] with the technician answering the call. The emotion could then be relayed [substantially concurrently] to emergency personnel, i.e., police, fire, and/or emergency personnel, so they are aware of the emotional state of the caller”).

Regarding claims 6, 12 and 18, Petrushin teaches extracting the embedded biometric information from the transmitted PSTN audio stream (col. 3, ll. 37-38, teaches the “system also comprises logic for outputting an indication of the at least one emotional state [biometric information]”; col. 3, ll. 51-52, teaches “an output device coupled to the computer for notifying a user of the emotional state detected in the voice signal”; see also col. 4, ll. 43-61); decoding the extracted biometric information; and presenting the information to the subscriber (col. 10, ll. 45-55, teaches “In a call center environment...annotations and decisions can be saved and the results output [presented]...output may take the form of a signal or message on a computer, a printed message from a printer, a video display or output device connected to a computer, an audible signal or tone output from an audio output device, or even an alarm”).

Regarding claims 19-21, Petrushin teaches wherein at least one other speaker is connected to the call, and wherein the method further comprises: prior to said receiving step, selecting one among the voice signals of the speaker and the voice signals of the other speaker to be analyzed; and performing the steps of receiving, determining, generating, identifying, encoding, and transmitting only for said selected speaker (col. 12, line 65 – col. 13, line 6, teaches, “[a]n emotion of the caller [selected speaker] would be determined during the caller’s conversation with the technician [other speaker] answering the call. The emotion could then be relayed...so they are aware of the emotional state of the caller [selected speaker]”; col. 4, ll. 57-60, teaches embodiments “used for [detecting] the emotional state of a caller [selected speaker] in telephone call center conversations”).

The rest of the limitations of claims 19-21 are the same as or similar to those of claims 1, 7 and 13, rejected above, and thus are rejected for the same reasons.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EN

Jan. 17, 2008



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